

# ***ArchiCAD Training***

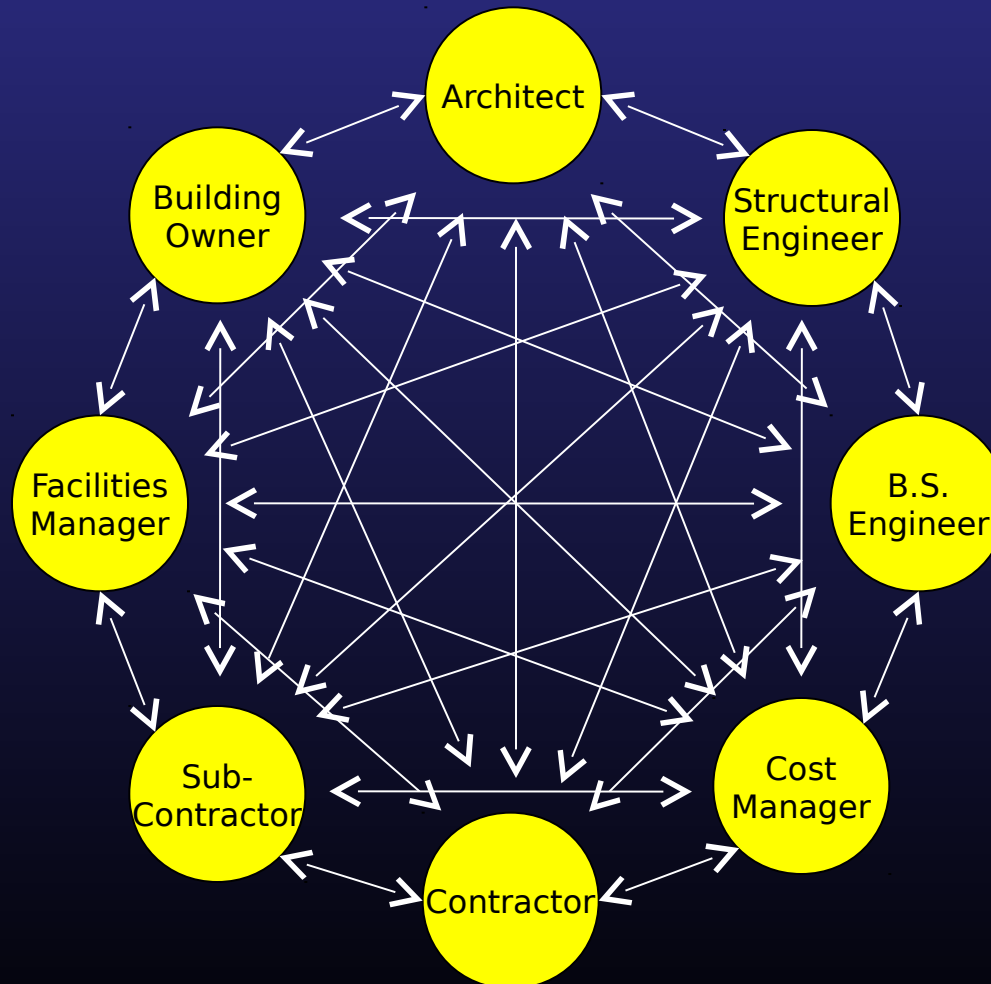


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Engineers

**CADD**  **GIS**  
**TECHNOLOGY CENTER**  
for facilities, infrastructure, & environment

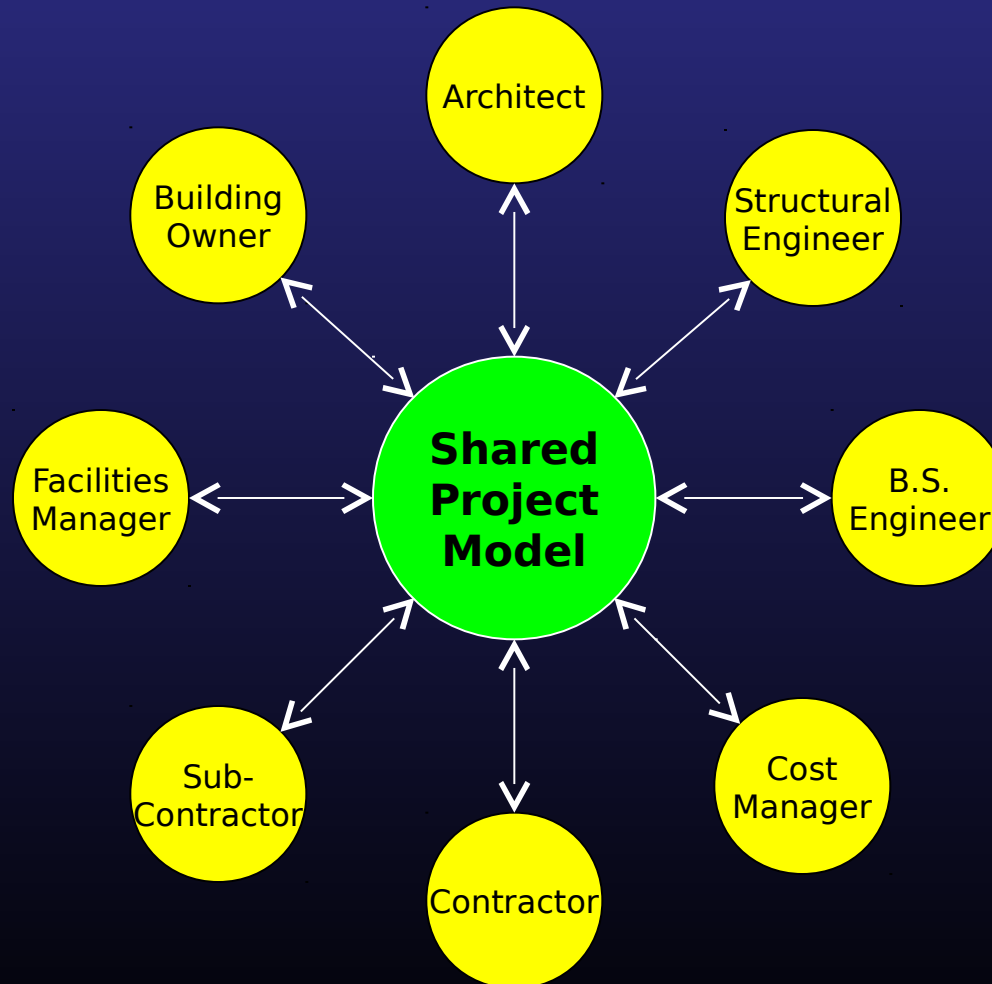
# Direct Communication

**BAD?**



# Shared Project Model

**GOOD?**



## Paper-Centric Approach

- 2D Information  
Task over process automation  
Linear-referenced information

## Today's Process Options

### Model-Paper Centric

Separate Model &  
Construction  
Documentation  
Adds Work  
Poor Carry-Thru  
Data



- Graphisoft Information-Centric  
Approach



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“Virtual Building”





# Information Future



Electronic  
Catalogs

Facilities  
ArchiFM

**ArchiCA**  
**D**

Simulation

EON  
Reality

4-D  
Scheduling

Microsoft  
Project



**IEC-2x**

**AEC**  
**XML**

**BLIS**  
Marketing

**Graphisoft**  
**Building**  
**Information**

**Activities**  
**Worldwide**

Costing-  
Quantities

Timberline

WinEst

Analysis/System  
s-HVAC

SMC-Building  
Checker

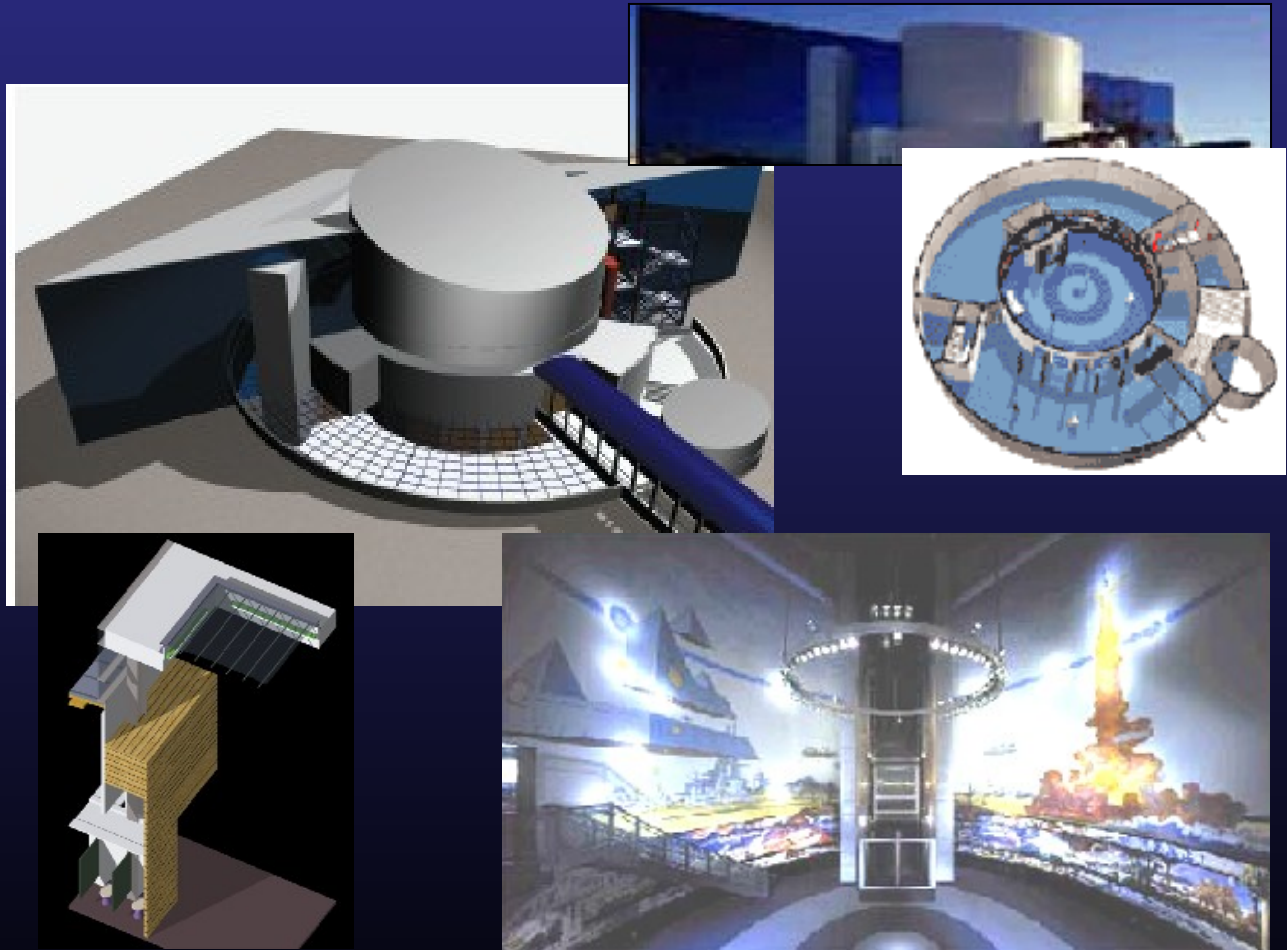


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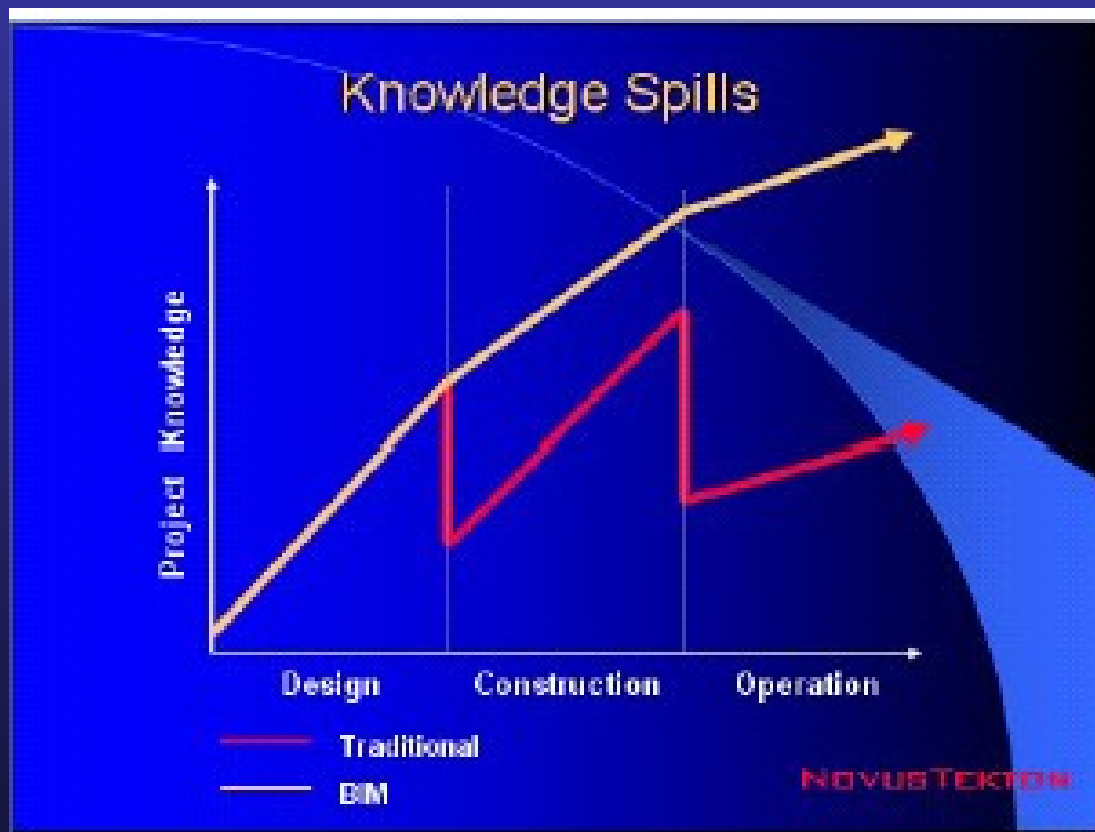
# From Model to Facilities

**Object  
Technology  
Automates  
NASA  
Design  
Project**



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*During the process of designing a building, architects and engineers collect and create an immense amount of data about a project. This data is useful to the construction and facilities management activities that follow. During the construction process additional data is collected and created. Traditional tools for communicating this data to subsequent parties allow for “knowledge spills”.*

Information Flow  
Without Interoperable Information

Duplication of Information /  
Time

**KAJIMA  
Corporation  
Before  
Virtual  
Building**



Schematic Design

Design Development

Construction  
Documentation

Construction Management



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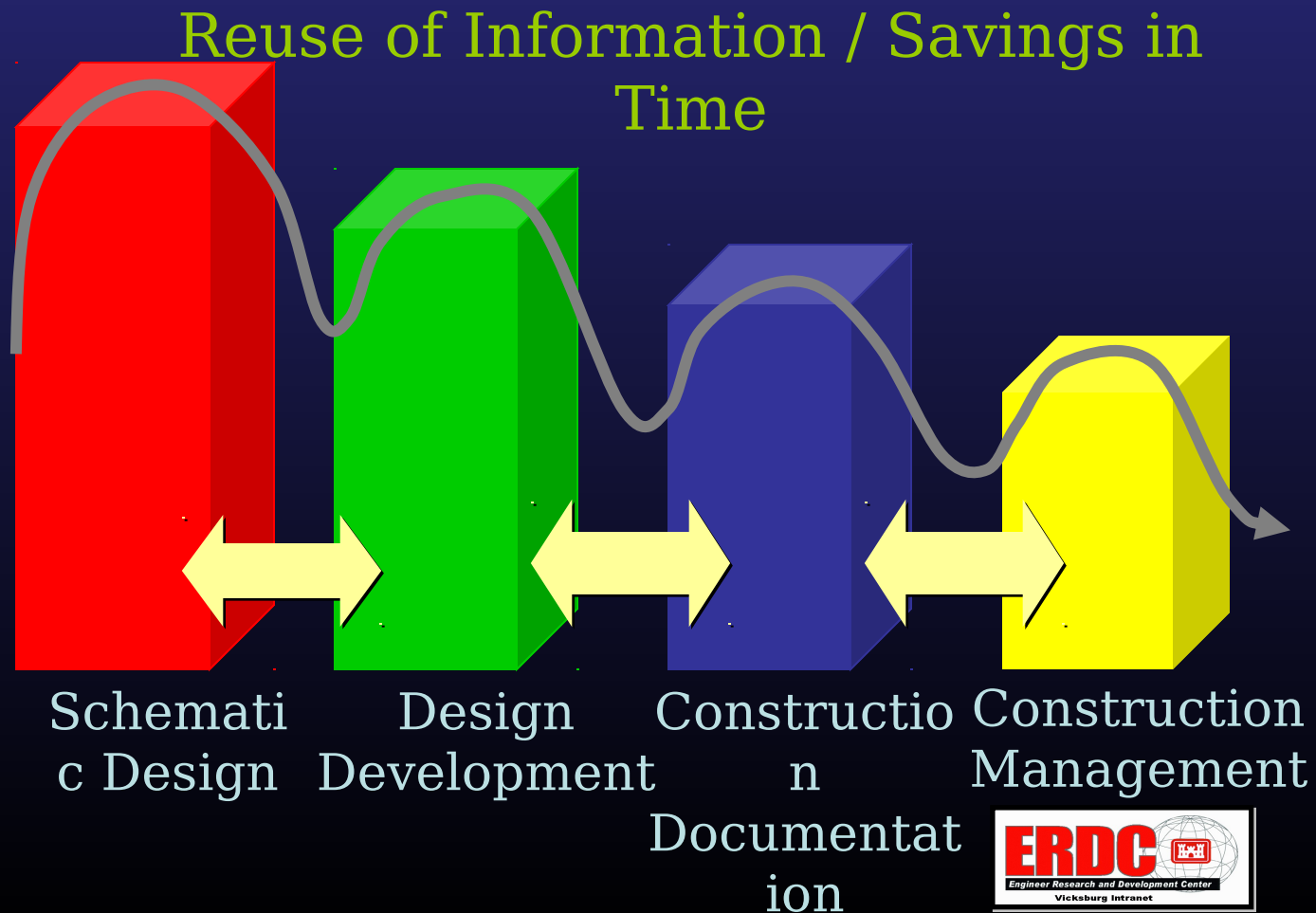


# The “Virtual Building”

## Delivers

- Interoperable Information
- 30% Productivity Gain with ArchiCAD

**Kajima  
Corporation  
Using  
ArchiCAD**



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## Building Information Models Provide an Excellent ROI\*!

As is the case in most complex undertakings thorough, upfront planning is an investment that pays for itself many times over. No where is that more true then in the process of constructing a building. The use of Building Information Models benefit everyone involved.

- Architects and engineers benefit by having design issues worked out before they become field issues.
- Contractors save hundreds of non productive hours due to reduced RFI, rework and shortened construction schedule.
- Owners save money on change orders and construction financing.

### Potential ROI in the reduction of change orders caused by construction interferences alone:

- Construction budgets typically carry a 7 – 10% (assume 8.5%) contingency for cost overruns.
- Of the 7-10% it is estimated that two-thirds (assume 67%) of these cost overruns are due to construction interferences.
- Eighty percent (80%) of construction interference can be detected prior to construction with the use of Building Information Models.
- The cost of Building Information Models is in the 1-2% (assume 1.5%) range of the overall construction cost.

$$\frac{\% \text{ Contingency} \times \% \text{ Construction Interferences} \times \% \text{ Detected with BIM}}{\% \text{ BIM Cost}}$$

$$= 300\% \text{ ROI}^*$$

\* ROI – Return on Investment



# ***Saving Time***

## ***Building Confidence***

- Ability to link and use graphics and data
- Parametric Object technology
- Bi-Directional updating
- Filters for decision making



# Master Planning

## Building Information



### 2 2 Service

Name	Service
Zone Number	102
Basic param.	
Zone Floor Level	±0"
Zone Floor Thickness	0"
Zone Height	8'
Measured Area	62 sq ft

1. Story. Page 1 of Section

### 3 3 Lobby

Name	Lobby
Zone Number	103
Basic param.	
Zone Floor Level	±0"
Zone Floor Thickness	0"
Zone Height	8'
Measured Area	460 sq ft

1. Story. Page 1 of Section

### 4 4 B

Core  
104



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# Schematic Design

## ***Building Information***

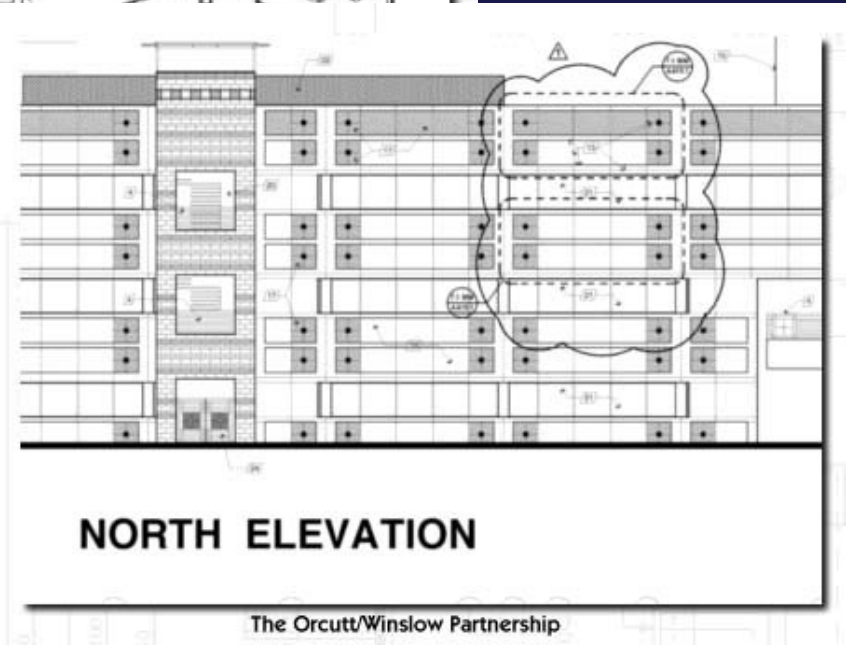
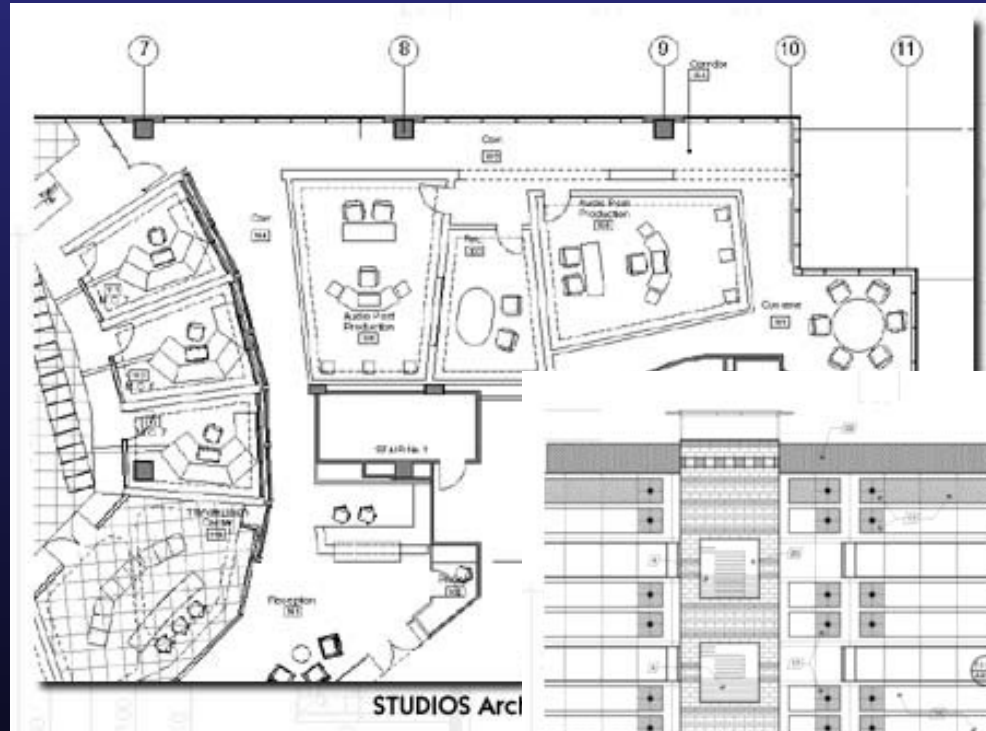


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# Construction Documentation

## Building Information





# The Final Pay-Off

# Virtual Building Populates ArchiFM



The screenshot displays the Graphisoft ArchiFM software interface. The main window shows a 3D model of a building with a blue floor and yellow walls. The interface includes a menu bar (File, Edit, View, Insert, Tasks, Help) and a toolbar. The 'Room Editing Window' is open, showing a list of rooms and their attributes. The 'Attributes' tab is selected, displaying a table of attributes for the selected room.

Type	Attribute Name	Attribute Value	Sign
Contract		D:\BM_Demo\Contract.doc	
picture		E:\Demo10\Picture_GF.bmp	
Web site		file:///D:/BM_Demo/Index.html	
		mailto:gdec@graphisoft.hu	
		jo	

Below the table, there are fields for 'Value', 'Daily Validity', 'From', and 'To'. The 'Daily Validity' field is set to '12:00:00 AM' and '11:59:59 PM'. The 'From' and 'To' fields are also visible. The 'Add', 'Modify', and 'Remove' buttons are at the bottom of the attribute list.

On the right side of the interface, there is a vertical list of menu items:

- Start ArchiFM
- Login
- Virtual Building™
- Main Editing Window
- Main Parameters
- Attributes
- Extended Attributes
- Attached Documents
- Picture
- Internet Site
- E-mail Address
- Events
- Cost Centers
- Lease Periods
- Tenant Management
- Persons Group Main ...
- Person Settings
- Furniture Group Main ...
- Vendor Settings
- Show in Graphics ...
- Select an Object in 2D
- Select an Object in 3D
- Find in the Structure
- Attributes of an Object
- Regular Maintenance
- Create To Do List
- Create Reports
- Set Tenant Report
- Show Tenants ...
- Set Inventory Report I.
- Show Inventory I. ...
- Set Inventory Report II.
- Show Inventory II. ...
- Key Management
- Edit Key Management



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# *4 Dimensional Modeling*



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